

# Lesson (1)

## Explorer in action

Date :  
Class :  
Period:

### Lesson objectives

By the end of the lesson the student will be able to:

- Explain how digital technology helps us in facilitating various tasks.
- Explain the key concepts of digital citizenship.
- Describe digital technology and gives some examples of it.

"Preface"  
What different types of digital technology are used every day?

### Accompanying activities

Take the students to the computer room and ask them the introductory question and then show them a video clip of the scientist William Tyner explaining the types of digital technologies he uses in various aspects of his work. I discuss with the students these types and how local communities can benefit from them.

### View Lesson

**William Tyner: Cultural anthropologist, technologist, and filmmaker**

**Advantages of using technology in a positive way:**

- Helping people become successful digital citizens
- Digital communication helps people communicate with each other to exchange opinions and form good relationships

**How digital tools help citizens:**

- Payment of various bills and money transfers through applications

\*Online booking of train, plane and bus tickets



### Evaluation :

- How can governments use IT tools to help local communities?
- Solve the book's questions (page 12, 13)



## Lesson (2)

# Digital Citizenship

**Strategy**  
Dialogue and discussion  
Think, Pair, Share

Date :

Class :

Period:

### Lesson objectives

By the end of the lesson the student will be able to:

- Explain what it means to be a digital citizen.
- Explain the basic concepts of digital citizenship.
- Discuss the use of ICT tools in an ethical, responsible and safe manner.

**"Preface"**  
In your opinion,  
what does it mean  
to be a digital  
citizen?

### Accompanying activities

Take the students to the computer room and ask them the introductory question and then ask each student to think about the question and write what he reached and then compare it with the colleague next to him and then share it with the group. With the presentation of the picture of the book that contains the nine elements that digital citizenship deals with, through which it is possible to deduce the characteristics of the digital citizen and what digital citizenship is.

### View Lesson

#### Digital citizenship:

is the ability to use digital technology in an ethical, responsible and secure manner

**Digital footprint:** It is a record of everything you do online, for example, the websites you visit, as well as what you publish and share with others.

#### Digital Citizen Specifications (Rights and Responsibilities)

Rights	responsibilities
1. It is your right not to copy or share your digital fingerprint without your consent.	1. You should never hack protected content in order to share it.
2. You have the right to interact and publish in a positive manner with those around you.	2. You should always show a positive behavior in dealing with others.
3. You have the right to share and access information and entertainment while respecting intellectual property rights.	3. You should always evaluate what you see and make sure of its reliable sources.
4. You have the right to use the Internet when you need it, in compliance with the law.	4. Make sure to evaluate your use of the Internet. Is it useful content that helps you? Is it safe or not?.



#### Evaluation :

- Explain the rights and responsibilities necessary to achieve digital citizenship.
- Solve the book's questions on pages (16, 17)



## Lesson (3)

### positive Effects of ICT

#### Strategy

Critical thinking  
Think, Pair, Share

Date :

Class :

Period:

#### Lesson objectives

By the end of the lesson the student will be able to:

- Explain how ICT tools can help him socially, intellectually and educationally.
- Discuss the efforts made by the Egyptian government to provide secure and reliable digital tools.
- Discuss ways to support ICT in the learning process.

" Preface"  
How did ICT tools make your life easier?

#### Accompanying activities

Take the students to the computer room and ask them the introductory question and then ask each student to think about the question and write what he reached and then compare it with the colleague next to him and then share it with the group. Displaying pictures of some digital devices that can be used, as well as the Egyptian Knowledge Bank website and some scientific and social platforms, in order to reach the content of the lesson.

#### View Lesson

##### Digital tools provided by the Egyptian government:

- Digital books and activities
- Educational videos and TV channels
- Providing citizens with access to the digital library of the Egyptian Knowledge Bank with instructions for its use.



##### The importance of digital devices:

- Helps people who have difficulty speaking to communicate with others
- Learn the language at school using pictures
- Provide the necessary contact with teachers and materials for those who cannot leave the house due to health problems or quarantine



##### One of the most important digital tools

- Video sharing platforms
- Social media platforms such as Facebook

##### Among the most popular applications:

- whatsapp . messaging
- Skype virtual meeting applications

##### Evaluation :

- What are the positive effects of information technology tools on the lives of students in Egypt?
- Solve the book's questions, pages (20, 21).



# Lesson (4)

## Online communication

**Strategy**  
Dialogue and discussion  
Cooperative Education

Date :

Class :

Period:

### Lesson objectives

By the end of the lesson the student will be able to:

- Discuss the use of the Internet to communicate with friends, family, and other citizens.
- Explain the difference between synchronous and asynchronous communication.
- specify the information and communication technology tools needed to communicate via the Internet.

### "Preface"

How do you use the Internet to communicate with family and friends?

### Accompanying activities

Take the students to the computer room and divide them into groups and ask them the introductory question and then ask each group to think of the question and write a list of communication methods and tools and I discuss with them what they wrote with clarification of the tools needed for communication and the main axes of the lesson through a presentation.

### View Lesson

Synchronous communication	Asynchronous communication
Communication that occurs in real time via instant responses between two people	Communication that does not require an immediate response and transfers information without the need for the two people to be present at the same time
Example	Example
<p><b>Video chat:</b> It allows you to communicate with more than one person through a computer, and you need a computer equipped with a camera and speakers, and an application or a program for video chats.</p> <p><b>instant messaging:</b> allows you to send messages over the Internet, which can include texts, pictures, or videos, and you need an instant messaging program or application on a mobile phone.</p> <p><b>Chat rooms:</b> These rooms allow you to communicate in groups and usually focus on one topic, for example, on a specific study topic, and you need an Internet browser such as Google Chrome or Internet Explorer.</p>	<p>E-mail: From it you can send and receive messages, and it is a more formal method than instant and text messages, and it requires an Internet browser to access the e-mail website or the mail application on the mobile phone</p> 

### Evaluation :

- In your opinion, what are the advantages of both synchronous and asynchronous communication?
- Solve the book's questions (page 24, 25)

Strategy  
Critical thinking  
Role play



## Lesson (5)

### How to use electronic communication

Date :

Class :

Period:

#### Lesson objectives

By the end of the lesson the student will be able to:

- Discuss the etiquette of using electronic communication.
- Explain how to use electronic communication.
- Use some digital tools to communicate with others.

#### "Preface"

How do you show your commitment to proper etiquette when communicating online?

#### Accompanying activities

Take the students to the computer room and divide them into groups of two students and ask them the introductory question and then ask each group to think about the question and make an imaginary video conversation by role-playing, observing the etiquette that must be adhered to during electronic communication and discuss what they did with an explanation of how to use electronic communication and its tools through a presentation.

#### View Lesson

##### How to use ICT tools to communicate:

**Conducting video chats:** a link is made and sent to the participants in the conversation and by clicking on it, it asks for permission to enter the conversation by the one who created the link and the conversation. People in this conversation can turn the sound on or off by themselves and may control the person responsible for the conversation as well as activate or stop the camera work. You must always pay attention to appear in a decent appearance and behave well and make sure that there is nothing contrary to the background.



**Chat rooms:** through which you can write comments and receive responses, which everyone who has the right to enter the chat sees, and remember to always be polite, helpful and positive

**Instant Messaging:** It is a fun and informal way to communicate, where you can choose the person's name, write a short message and send it with emoticons or pictures



**E-mail:** It is common to use it in official correspondence and to send mail, you write the name of the sender in the (TO) field, write the message title in (subject), write the contents of the message with correct grammatical rules, and then press send. Remember to be clear and polite and use salutations and closings.

##### Evaluation:

- What are the most important etiquettes that must be adhered to during video chats?
- Solve the book's questions on page (28, 29)



## Lesson (6)

### Online learning environments and resources

#### Strategy

Critical thinking  
Dialogue and discussion

Date :

Class :

Period:

#### Lesson objectives

By the end of the lesson the student will be able to:

- Explain the purpose of online learning environments.
- Discuss online learning resources.
- Deal with questions related to other study topics.

"Preface"  
How did online learning tools help you learn about a specific topic?  
Provide examples.

#### Accompanying activities

Take the students to the computer room and divide them into groups and then ask them the introductory question and then ask each group to think of a topic that you want to research and write the questions they want to know about this topic while discussing the learning resources that may help to conduct this research in order to reach the themes of the lesson.

#### View Lesson

##### online learning environments

Learning environments like Edmodo allow teachers and students to communicate, create virtual classes, and upload quizzes and homework.



##### online learning sources:

- [The Egyptian Knowledge Bank](#): a digital library containing many educational materials
- [vlaby](#): a virtual laboratory platform for conducting laboratory experiments
- [National Geographic Kids](#): a platform for children to access information in various scientific fields
- [interactive mapmaker](#): an interactive feature provided by National Geographic that provides mapping tools over the Internet. It is considered one of the safe and reliable sites for research and data collection.



Egyptian Knowledge Bank  
بنك المعرفة المصري



##### Evaluation :

- What is the purpose of online learning environments?
- Solve the book's questions (pages 32 and 33)



# Lesson (7)

## Digital Research plan

**Strategy**  
Dialogue and discussion  
Critical thinking

Date :

Class :

Period:

### Lesson objectives

By the end of the lesson the student will be able to:

- Discuss reliable and unreliable sources on the Internet.
- Explain how to plan and conduct digital research.
- Discuss how to collect and present information using online resources.

### "Preface"

Think about the sources you will use in your research. Would you avoid a particular source?

### Accompanying activities

Take the students to the computer room and ask them the introductory question and ask each group to write a list of their previous experience with reliable and unreliable sources and discuss them in their answers and clarify the reliable and unreliable sources needed in them in order to reach the main elements in the lesson from writing the scheme and research method.

### View Lesson

#### Stages of planning for digital research:

- Choose the research topic and specify what you want to know about it and the additional points you want to learn.
- Choose the types of electronic resources that you will use.
- Evaluate the types of sources you used (reliable or unreliable)



#### Elements of writing a research outline:

#### The scheme must include the following parts:

- An introduction that presents the topic of the report.
- Supporting paragraphs that provide information.
- Conclusion or final thoughts on what you have presented.

Reliable sources	Unreliable sources
They are articles or information written by experts and verified for their authenticity, presented in a professional manner, and written carefully like the Knowledge Bank website	It may be full of personal opinions, mistakes and even lies like social networking sites

#### Evaluation :

- Provide an example of a reliable digital source and explain why
- Solve the book's questions (page 36, 37)



# Lesson (8) synchronous and asynchronous communication

Strategy  
Critical thinking  
Cooperative Education

Date :

Class :

Period:

## Lesson objectives

By the end of the lesson the student will be able to:

- Discuss with teachers and colleagues the use of synchronous and asynchronous communication.
- Communicate with others using digital tools.
- Discuss how to announce the results using digital tools.

"Prefeace"  
How can you present  
your research  
information using  
digital tools?

## Accompanying activities

Take the students to the computer room and ask them the introductory question and ask each student to clarify the digital tools through which he will present his research to his colleagues and the teacher and choose the most appropriate ways to communicate synchronously or asynchronously to reach the elements of the lesson and discuss them with them.

## View Lesson

**Synchronous communication:** It is suitable in the following cases:

- Between friends and close family members.
- When the need is urgent or in need of speed.
- When information revolves around issues from daily life.
- When the answer does not require a lot of thinking and preparation.



**Asynchronous Communication:** It is suitable in the following cases:

- Between people who do not know each other well.
- When the information is important, but we change urgent.
- When information revolves around sensitive or complex topics.
- When the answer needs to be thought and prepared



## Evaluation :

- Give an example of a situation where you would prefer to use synchronous or asynchronous communication
- Solve the book's questions on pages (40, 41)

# Third Theme Review

**Strategy**  
performance-based  
evaluation

Date :

Class :

Period:

## Lesson objectives

By the end of the lesson the student will be able to:

- prove the information, meanings and knowledge acquired in the first axis.
- divide The curriculum into units of study that are easy to review and retrieve.
- Solve as required by the questions in the first axis.

"preface"

What are the most important topics of the third theme?

## View Lesson

**The first question: Compare the following:**

1. Synchronous communication and asynchronous communication.
2. Unreliable source and bias.
3. Digital citizenship and digital footprint.

**Second question: Read and answer:**

1. List two ideas to protect your digital fingerprint.
2. How do tablets help students learn?
3. Give three examples of asynchronous communication.
4. Why are email messages considered a more formal method of communication than instant messages?
5. Explain the meaning of online learning environments.
6. Give an example of a reliable source and another example of an unreliable source.
7. Explain how online learning environments use synchronous and asynchronous communication.

**Solve the rest of the review questions page (43)**



# Lesson (1)

## Explorer in action

**strategy**  
Critical thinking  
Dialogue and discussion

Date :

Class :

Period:

### Lesson objectives

By the end of the lesson the student will be able to:

- Describe different types of software and how to use them.
- Discuss the role of various digital applications.
- Identify ways in which technological tools help in protecting wildlife.

### "Preface"

What do scientists want to find when looking for animals in the wild?

### Accompanying activities

Take the students to the computer room and ask them the introductory question and show them a video clip about the projects of Gautam Shah and the technology he uses in the team to make games to attract people's interest in following the wildlife and I discuss with them what they saw in order to reach the themes of the lesson.

### View Lesson

**Gautam Shah:** IT expert and founder of the Internet of elephants organization uses technology to conserve wildlife, i.e. keep animals in their natural habitat.

#### Internet of elephants organization:

It is an organization concerned with preserving wildlife by designing games with augmented and virtual reality technology that allows interaction with animals in their natural environment, which drives people to care about wildlife

#### The most important technological tools used by the organization:

- Global Positioning System for collecting data for game design.
- Display screens and digital devices to display virtual reality.



#### Evaluation:

- What animals would you like to see in their natural habitat? And what do you want to know about it?
- Solve the book's questions (page 48, 49)



## Strategy Critical thinking Problem Solving

# Lesson (2) Problem solving skills

Date :

Class :

Period:

### Lesson objectives

By the end of the lesson the student will be able to:

- Explain the steps involved in solving problems.
- Discuss how to break big problems into small parts.
- Analyze and solves a problem.

### "Preface"

Think about a problem you encountered in your phone and how did you solve it?

### Accompanying activities

Take the students to the computer room and ask them the introductory question and ask each student to discuss what he has reached with his colleague and give each group a problem from the discovery elements on page (51) to solve with their support with examples and the necessary steps for solving and dividing the problem according to the elements of the lesson

### View Lesson

#### Problem solving steps:

- Building a hypothesis: A hypothesis is a scientific guess about how things will happen.
- Hypothesis testing: with an emphasis on not testing anything that puts you at risk.
- Did your test pass: Even if it does not work for you, you learn from your mistakes.

Divide the problem into small parts: Some problems may be more complex than others, and you may need to distribute tasks and parts of the problem to the group that helps you, and you have to divide them as the following example to solve the problem of organizing a school trip:

- Decide the destination of the trip.
- Select the date and time of the trip.
- Ask about the price of the trip for each student.
- Determine how your colleagues will reach the destination.
- Determine the items that the students should bring with them.
- Make a list of the rules that must be followed.



#### Evaluation:

- How can dividing a large problem into small parts help in solving it?
- Solve the book's questions (page 52, 53)

Strategy  
Critical thinking  
Cooperative Education



## Lesson (3) Display information

Date :  
Class :  
Period:

### Lesson objectives

By the end of the lesson the student will be able to:

- Discuss the best way to present information to others.
- Explain the digital needs required by simple projects.
- Discuss some basic design concepts.

### "Preface"

What attracts you the most about the presentations you were given in class?

### Accompanying activities

Take the students to the computer room and divide them into small groups and ask them the introductory question and ask each group to write what they have reached and present it to the other groups. Give each group to each group a topic from the Discover paragraph in the book and ask them to develop an initial design for the presentation with support with the main points of the design, clarifying and applying them to their topic.

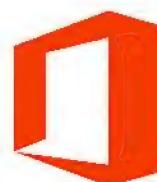
### View Lesson

Digital tools needed to present a presentation of information:

- Digital posters.
- The digital billboard.

Office 365 includes different design options, such as:

- PowerPoint presentation software
- Word processor program
- Publisher . desktop publishing program



Office 365

### Digital concepts to consider in design

#### Margins

The margin is the amount of space between the ends of the poster or the billboard and its content, and an appropriate space must be left so that the design does not seem overcrowded, for example, leaving 25 mm as a margin for the design to be considered appropriate.

#### Font type and size

When designing the poster, it must be clear to the audience and easy to see and read the information. So you have to choose an appropriate font size that is easy to read and that the font type is simple and far from complex.

#### Colors

You should always choose harmonious colors as this helps you to convey your message and draw attention to the design and take into account the background color with the color of the writing font.

#### Pictures

It is common for images to be used in posters and paintings, so they must fit with the content you share, be clear and of high quality.

### Evaluation :

- What tools are needed to create a poster or billboard.
- Solve the book's questions on pages (56, 57)



# Lesson (4)

## Digital Applications

Date :

Class :

Period:

### Lesson objectives

By the end of the lesson the student will be able to:

- Explain how to use reliable sources to search for information.
- Explain some of the uses of the word processor program and arithmetic tables.
- Explain how to use the Word and Excel programs to share information.

### "Preface"

What is the impact of human behavior on the environment?

### Accompanying activities

Take the students to the computer room and divide them into small groups and ask them the introductory question and ask each group to write what they have found and present it to the other groups, specifying the type of information that they must find and how to record it in order to reach the main lesson points.

### View Lesson

#### Evaluate information sources:

You should always use multiple sources such as:  
(print, internet, interviews).

#### Methods for evaluating information sources:

- Is the author a respected person or institution?
- Are there evidence and sources of information?

The extent to which the information is recent and biased towards an idea

#### Using Word and Excel to record data:

Excel is the most used program for collecting information and allows you to create a spreadsheet. It is usually used to present numbers because it is able to collect them automatically. Word allows you to present your ideas in a variety of ways and is often used in writing with designs, adding images, and linking your report to websites.



#### Evaluation :

- Compare word processor and spreadsheet program
- Solve the book's questions (page 60, 61)



strategy  
Critical thinking  
Cooperative Education

## Lesson (5) Algorithms

Date :

Class :

Period:

### Lesson objectives

By the end of the lesson the student will be able to:

- Discuss the concept of algorithms.
- Explain how the search engine uses algorithms.
- Explain how to solve a problem using algorithms.

### "Preface"

How does following specific and organized steps help you solve a problem?

### Accompanying activities

Take the students to the computer room and divide them into small groups and ask them the introductory question and give each group a task and ask them to do it in orderly steps explaining these steps to reach the concept of the algorithm.

### View Lesson

#### Algorithm:

A series of organized steps that explain how to perform a task.

#### Examples of using algorithms:

- Used by search engines to give results and determine search results.
- Using it in preparing a recipe for making food with specific steps.
- Use it to give instructions and daily routines.

#### Algorithms and computers:

Computers and its applications use algorithms to perform specific tasks. When keywords are entered into a search engine, the search engine takes steps to provide results. Therefore, it is important to choose the right words when collecting information, and if they are not accurate, the search engine algorithm will not be accurate.



#### Evaluation :

- Explain how the search engine uses algorithms to deliver results.
- Solve the book's questions on page (64, 65)

# Lesson (6)

## Programming Basics

strategy  
Critical thinking  
learning by playing

Date :

Class :

Period:

### Lesson objectives

By the end of the lesson the student will be able to:

- Discuss the concept of programming.
- Explain what he can create through the programs used in the programming process.
- Discuss how programming is another example of problem-solving strategies.

### "Preface"

What types of animation do you prefer?  
Explain the reason.

### Accompanying activities

Take the students to the computer room, divide them into small groups, ask them an introductory question, and give each group a task to build a maze on paper with the instructions and steps necessary to pass it, while discussing the idea of coding with them in order to reach the concept of programming and other lesson topics.

### View Lesson

#### Coding:

It is about writing multiple algorithms to create an integrated program.

#### Code:

The language in which you can create drawings, applications and games, and there are different languages

#### Examples of programming:

You can always create a simple maze with instructions to pass it through one of the sites dedicated to this, such as Code.org, as it is an example of what you can create using programming.



#### Evaluation :

- What is meant by programming?
- Solve the book's questions on page (68, 69)



# Lesson (7)

## Graphic Art

### strategy

Dialogue and discussion  
Practical Training

Date :

Class :

Period:

### Lesson objectives

By the end of the lesson the student will be able to:

- Discuss how to use graphic programs.
- Discuss how to add some visuals to presentations.
- Explain how to add and edit images.

### "Preface"

How do you think, support visuals such as images and graphics, presentations?

### Accompanying activities

Take the students to the computer room and ask them the introductory question and give each student a task to draw a simple design through the Paint program while supporting them in the way of opening the program and interacting with it and how to benefit from this design in the presentations of the topics that they planned in the previous lessons.

### View Lesson

**Microsoft Paint:** One of the popular programs in the field of image and graphics editing.

**How to open the program:** From the start menu, we choose Accessories, from which we choose the icon of the Paint program.

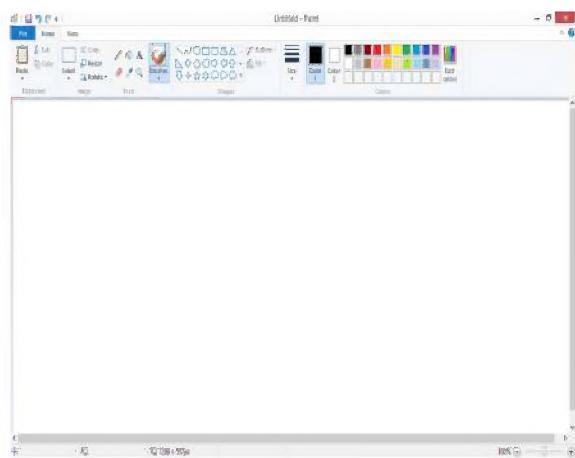
**The opening screen of the program:**

- Title Bar
- Menu Bar
- Toolbox
- color box
- drawing area

**Features of the photo editing program:**

- Fill in the colors using the options.
- Identification of specific parts of the image and cut them.
- Add texts to images.
- Change image size and orientation

The word processor software also provides graphic tools such as shapes, icons, 3D models, and diagrams



**Evaluation :**

- What tools are used in Paint?
- Solve the book's questions on page (72, 73)



# Lesson (8)

## Create a presentation

### strategy

Dialogue and discussion  
Cooperative Education

Date :

Class :

Period:

### Lesson objectives

By the end of the lesson the student will be able to:

- Discuss the elements of the presentation.
- Discuss the features of the presentation program.
- Provide information on a specific topic using PowerPoint.

### "Preface"

What are the elements of a good presentation?

### Accompanying activities

Take the students to the computer room and ask them the introductory question with a set of presentations showing their differences and the features of each presentation. Ask each group to write a list of the good elements in the presentations and discuss them, giving them tasks to implement their presentations while supporting them to reach the themes of the lesson.

### View Lesson

#### Run the program:

From the Start menu, choose all programs, then choose Microsoft Office, then PowerPoint, or you can after pressing the start menu type the word "PowerPoint" in the search, and it will appear to you immediately, then click and it will open with us directly.

**Slide:** It is a display page containing text and images, and it appears with additional thumbnails on the left of the page

- The opening screen of the program and the main tabs.
- Add slides and texts.
- Adding visuals and effects (design - drawing - transitions - motion effects - slide show)
- Inserting pictures.

**When designing your presentation, be sure to:**

- Avoid long paragraphs or sentences.
- Ensure that the font type and size are readable.
- Use related images instead of texts.



#### Evaluation :

- Discuss the features available in PowerPoint
- Solve the book's questions on pages (76, 77)

# Fourth Theme Review

strategy  
performance-based  
Evaluation

## Lesson objectives

By the end of the lesson the student will be able to:

- prove the information, meanings and knowledge acquired in the fourth theme.
- Divide curriculum into units of study that are easy to review and retrieve.
- Solve as required by the questions in the fourth theme.

## "Preface"

What are the main topics of the fourth theme?

## View Lesson

### The first question: Compare the following:

- Steps and trial and error.
- Algorithms and programming.
- Slide and thumbnail.

### The second question, read and answer:

- Explain why steps are taken in the problem-solving process.
- What digital concepts you should consider when designing a poster.
- How images improve your presentation.
- Write a short algorithm for a routine task.
- Give instructions to add an image in Word or PowerPoint.
- Explain the relationship between problem solving and programming.
- Mention three tools that you can use in the Paint or Word program to design your own drawings.
- Mention three visuals that you can use in PowerPoint.

**Solve the rest of the review questions (page 79).**

Date :

Class :

Period: